Response to Office Action of June 4, 2009

Application No.: 10/573,402

Amendments to the Claims:

(Currently Amended) ▲ Molten Carbonate Fuel Cell stack comprising a plurality
of cells separated by an electronically conductive material which is impervious to gas,
characterized by the combination of the following elements:

a positive reservoir component, external to the cathode of the first cell, on the positive side of the stack, wherein said reservoir consists of one ore or more porous layers of electronically conductive material and comprises at least one gas distributor and

a negative reservoir component, external to the anode of the last cell, on the negative side of the stack, wherein said reservoir consists of one ore or more porous layers of electronically conductive material,

wherein both the reservoirs are in use exposed exclusively to fuel gas environment and are inaccessible to the oxidant gases, all the porous layers of all the reservoir components being inaccessible to the oxidant gases.

- (Original) Molten Carbonate Fuel Cell stack as defined in claim 1, wherein
 the positive reservoir is separated from the cathode of the first cell on the positive side of the
 stack by means of an electronically conductive material which is impervious to gas.
- 3. (Original) Molten Carbonate Fuel Cell stack as defined in claim 1, wherein the negative reservoir is separated from the anode of the last cell on the negative side of the stack by means of an electronically conductive material which is impervious to gas.
- 4. (Original) Molten Carbonate Fuel Cell stack as defined in claim 1 or 2, wherein the positive reservoir element is in use accessible to gases at least on one of the faces formed by the lateral surfaces of the cells, in which fuel gas is present and which is separated from oxidant gases.

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 (Currently Amended) Molten Carbonate Fuel Cell stack according to <u>claim 1</u> the elaims 1 to 4, wherein the positive and the negative reservoirs are in use in communication through the electrolyte with gaskets which are in contact with the matrixes of the cells.

- 6. (Currently Amended) Molten Carbonate Fuel Cell stack according to <u>claim 1</u> the elaims 1 to 5, wherein the positive and the negative reservoir are in use accessible to the fuel gas at the fuel inlet side while the other three faces formed by the lateral surfaces of the cells are in use exposed respectively to the oxidant gas fed to the stack, to an exhausted oxidant gas outlet zone and to an exhausted fuel gas outlet zone.
- 7. (Currently Amended) Molten Carbonate Fuel Cell stack according to claim 1 the elaims 1 to 5, wherein the positive and the negative reservoir are in use accessible to the fuel gas at the exhaust fuel outlet side while the other three faces formed by the lateral surfaces of the cells are in use exposed respectively to the oxidant gas fed to the stack, to an exhausted oxidant gas outlet zone and to the fuel gas fed to the stack.
- 8. (Currently Amended) Molten Carbonate Fuel Cell stack according to claim 6 the elaims 6 or 7, wherein gaskets are attached to the perimeter of the face, some parts of said gaskets are in contact with portions of the cells matrix and wherein in use on every face of the cell stack the gas is contained in a zone which is separated from the external environment.
- 9. (Currently Amended) Molten Carbonate Fuel Cell stack according to <u>claim 1</u> the elaims 1-to-8, wherein every cell of the stack comprises an anode, an electronically conductive fuel gas distributor, a cathode, an electronically conductive oxidant gas distributor and an electrolyte containing matrix.
- 10. (Currently Amended) Molten Carbonate Fuel Cell stack according to <u>claim 1</u> the elaims 1 to 9, wherein in porous gaskets compressed on the perimeter of the faces, the portions which connect the matrix of the first cell at the positive pole to the matrix of the last cell at the negative pole, have a volume of residual porosity in the gaskets which is <4%.</p>

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11. (Currently Amended) Molten Carbonate Fuel Cell stack according to claim 1 the claims 1 to 10, wherein the porous layers of the positive and of the negative reservoir comprise at

least 50% of Ni.

12. (Currently Amended) Molten Carbonate Fuel Cell stack according to claim 1 the

claims 1 to 10, wherein in the porous layers of the positive and of the negative reservoir at least

50 wt % is Cu or Ni+Cu.

13. (Original) Molten Carbonate Fuel Cell stack according to claim 12, wherein

the porous layers of the negative reservoir comprise elements consisting of anodes which are

identical to the ones of the cells.

14. (Original) Molten Carbonate Fuel Cell stack according to claim 13, wherein

the porous layers of the negative reservoir comprise elements consisting of anodes which are

identical to the ones of the cells.

(Currently Amended) Molten Carbonate Fuel Cell stack according to claim 1 the 15.

elaims 1 to 14, wherein the number of the cells is >50 and their area is >3500 cm².

16. (New) A Molten Carbonate Fuel Cell stack comprising a plurality of cells separated by an electronically conductive material which is impervious to gas, characterized by

the combination of the following elements:

a positive reservoir component, external to the cathode of the first cell, on the positive side of the stack, wherein said reservoir includes one or more porous layers of

electronically conductive material and comprises at least one gas distributor; and

a negative reservoir component, external to the anode of the last cell, on the negative side of the stack, wherein said reservoir includes one or more porous layers of

electronically conductive material;

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wherein both the reservoirs are in use exposed exclusively to fuel gas environment and are inaccessible to the oxidant gases, all the porous layers of all the reservoir components being inaccessible to the oxidant gases.